

THE INVENTION CLAIMED IS:

1. An NMR measurement method comprising the step of:
applying RF power of a frequency not affecting measurement of an NMR signal to a detection coil or the RF irradiation coil complementarily.
2. The NMR measurement method set forth in claim 1, wherein said detection coil or the RF irradiation coil has a resonance mode which is different from a resonance mode at a measurement frequency for the NMR signal and which does not affect the measurement of the NMR signal.
3. The NMR measurement method set forth in claim 1, wherein said frequency not affecting the measurement of the NMR signal is shifted from the measurement frequency for the NMR signal by a given frequency and can resonate in the same resonance mode as the measurement frequency for the NMR signal.
4. The NMR measurement method set forth in any one of claims 1 to 3, wherein the total amount of RF power applied to the detection coil or the RF irradiation coil is controlled to be almost constant irrespective of whether the RF power of the frequency necessary for the measurement of the NMR signal is applied or not.
5. An NMR measurement method comprising the steps of:
applying RF power of a frequency not affecting measurement of an NMR signal to a detection coil or the RF irradiation coil such that reflected RF power is produced;
and
detecting an increase in the temperature of the detection coil or the RF irradiation coil from the strength of the reflected RF power.
6. The NMR measurement method set forth in claim 5, wherein said detection coil or the RF irradiation coil has a resonance mode which is different from a resonance mode at a measurement frequency for the NMR signal and which does not affect the measurement of the NMR signal.

7. The NMR measurement method set forth in claim 5, wherein said frequency not affecting the measurement of the NMR signal is shifted from a measurement frequency for the NMR signal by a given frequency and can resonate in the same resonance mode as the measurement frequency for the NMR signal.

8. The NMR measurement method of any one of claims 5 to 7, wherein the RF power of the frequency not affecting the measurement of the NMR signal can be so adjusted that the ratio of the RF power reflected from the detection coil or the RF irradiation coil to the RF power applied to the detection coil or the RF irradiation coil is minimized.

9. An NMR apparatus comprising:

a detection coil or the RF irradiation coil;

first RF power application means for applying RF power of a frequency necessary for measurement of an NMR signal to the detection coil or the RF irradiation coil; and

second RF power application means for applying RF power of a frequency not affecting the measurement of the NMR signal to the detection coil or the RF irradiation coil.

10. The NMR apparatus set forth in claim 9, wherein said detection coil or the RF irradiation coil has a resonance mode which is different from a resonance mode at a measurement frequency for the NMR signal and which does not affect the measurement of the NMR signal.

11. The NMR apparatus set forth in claim 9, wherein said frequency not affecting the measurement of the NMR signal is shifted from the measurement frequency for the NMR signal by a given frequency and can resonate in the same resonance mode as the measurement frequency for the NMR signal.

12. The NMR apparatus set forth in any one of claims 9 to 11, wherein there is further provided control means for controlling said first and second RF power application means such that the sum of the RF power applied to the detection coil or the RF irradiation coil from said first RF power application means and the RF power applied to the detection

coil or the RF irradiation coil from said second RF power application means is kept almost constant.

13. The NMR apparatus set forth in any one of claims 9 to 11, wherein there is provided a power meter for detecting the ratio of the RF power reflected from the detection coil or the RF irradiation coil to the RF power applied to the detection coil or the RF irradiation coil from the second RF power application means.

14. The NMR apparatus set forth in claim 13, wherein the RF power applied from the second RF power application means can be adjusted based on the value of the power meter such that the reflected RF power is minimized.